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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,544	02/26/2004	Russell W. Gruhlke	10021091-1	9466

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AGILENT TECHNOLOGIES, INC.
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EXAMINER

MENEFEE, JAMES A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

file

Office Action Summary	Application No. 10/789,544	Applicant(s) GRUHLKE, RUSSELL W.	
	Examiner James A. Menefee	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/26/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation “said focusing means” in lines 6-7. There is insufficient antecedent basis for this limitation in the claim. The phrase should be replaced by “said diffractive optical element” to provide proper basis, and has been examined as such. Claims 16-20 are rejected for their dependence on claim 15, thus including this limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 329 999 ('999) in view of Swanson et al. (US 5,161,059).

Regarding claim 1, '999 discloses as in Fig. 1 an optical device comprising an optical cavity, an optical gain medium 14 that generates light in said cavity, and a focusing diffractive optical element (DOE) 40 optically coupled to the gain medium to receive light from said gain

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medium, said DOE being configured to diffractively focus said light of a selected wavelength back into the gain medium to cause said light of said selected wavelength to resonate within said cavity.

Regarding claim 10, '999 similarly discloses a method of selectively emitting light comprising generating light, reflecting said light within an optical cavity, wavelength selectively diffracting said light within said optical cavity so that light of a selected wavelength is resonant within said cavity, and emitting light of said selected wavelength from said cavity.

Regarding claim 15, '999 similarly discloses a light source 14 operable to generate light, a DOE 40 configured to diffractively focus said light of a selected wavelength back onto said light source, means 10 for reflecting at least some of said light from said DOE to said light source, said reflecting means 10 partially defining an optical cavity resonant at said light of said selected wavelength.

Regarding claims 1, 10, and 15, it is not disclosed that the DOE is aberration corrected. Swanson teaches a DOE that is aberration corrected for spherical aberrations. See, e.g., col. 2 lines 29-30, though the entire document is relevant. It would have been obvious to one skilled in the art to use Swanson's DOE in the '999 system so that spherical aberrations may be corrected, as these aberrations are a known problem affecting performance.

Dependent claims:

Regarding claims 2, 11, and 16, as noted above Swanson's DOE corrects for spherical aberrations.

Regarding claims 3, 12, and 17, both '999 and Swanson use a DOE having circular gratings. Additionally, Swanson's DOE makes a typical spherical structure aspheric, see col. 5

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lines 50-52, thus it can be said the correction uses circular gratings whose periodicities are based on an aspheric surface.

Regarding claims 4 and 18, the gratings of the optical elements of both '999 and Swanson have the profiles as claimed.

Regarding claim 5, '999 further discloses a reflective element 20 optically coupled to said DOE to reflect at least some of said light from said DOE to said gain medium.

Regarding claims 6-9, 13-14, and 19-20, '999 discloses the DOE may be transmissive and located between the gain medium and reflector (as in Fig. 1), or it may be reflective with the gain medium between the DOE and reflector (as in Fig. 3).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Siono et al. (US 5,373,519) appears to disclose a DOE having aberration compensation, see e.g. col. 8.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Menefee', with a stylized, cursive script.

James Menefee
February 3, 2006